Phase II and Phase III Archeological Database and Inventory

MARYLAND HISTORICAL TRUST

Site Number: 18BA433 **Site Name:** Lyonsfield Run III

Other name(s)

Prehistoric ☑ Historic ☐ Unknown ☐

Brief Description: Early to Middle Woodland short-term resource procurement

Site Location and Environmental Data:

Latitude 39.3971 Longitude -76.8045

Elevation 171 m Site slope 0

Site setting

-Site Setting restricted

-Lat/Long accurate to within 1 sq. mile, user may need to make slight adjustments in mapping to account for sites near state/county lines or streams

Maryland Archeological Research Unit No. 14

Physiographic province Eastern Piedmont

Ethnobotany profile available ☑ Maritime site ☐

SCS soil & sediment code

Terrestrial site ☑ Underwater site ☐

Topography

Floodplain	☐	High terrace	☐
Hilltop/bluff	☑	Rockshelter/ cave	☐
Interior flat	☐	Hillslope	☑
Upland flat	☐	Unknown	☐
Ridgetop	☐	Other	☐
Terrace	☐		
Low terrace	☑		

Ownership

Private	☑
Federal	☐
State of MD	☐
Regional/ county/city	☐
Unknown	☐

Nearest Surface Water

Name (if any) Tributary of Red Run

Saltwater		Freshwater	
Ocean	☐	Stream/river	☑
Estuary/tidal river	☐	Swamp	☐
Tidewater/marsh	☐	Lake or pond	☐
		Spring	☐

Minimum distance to water is 20 m

Temporal & Ethnic Contextual Data:

Paleoindian site	☐	Woodland site	☐	Contact period site	☐
Archaic site	☐	MD Adena	☐	ca. 1630 - 1675	☐
Early archaic	☐	Early woodland	Y	ca. 1675 - 1720	☐
MIddle archaic	☐	Mid. woodland	Y	ca. 1720 - 1780	☐
Late archaic	☐	Late woodland	☐	ca. 1780 - 1820	☐
Unknown prehistoric context	☐			Unknown historic context	☐
				Unknown context	☐

ca. 1820 - 1860	☐		
ca. 1860 - 1900	☐		
ca. 1900 - 1930	☐		
Post 1930	☐		

Ethnic Associations (historic only)

Native American	☐	Asian American	☐
African American	☐	Unknown	☐
Anglo-American	☐	Other	☐
Hispanic	☐		

Y=Confirmed, P=Possible

Site Function Contextual Data:

Prehistoric

Multi-component	☑	Misc. ceremonial	☐
Village	☐	Rock art	☐
Hamlet	☐	Shell midden	☐
Base camp	☐	STU/lithic scatter	☑
Rockshelter/cave	☐	Quarry/extraction	☐
Earthen mound	☐	Fish weir	☐
Cairn	☐	Production area	☑
Burial area	☐	Unknown	☐

Other context ☐

Historic

Urban/Rural?

Domestic	☐	Furnace/forge	☐
Homestead	☐	Other	☐
Farmstead	☐	**Transportation**	☐
Mansion	☐	Canal-related	☐
Plantation	☐	Road/railroad	☐
Row/townhome	☐	Wharf/landing	☐
Cellar	☐	Maritime-related	☐
Privy	☐	Bridge	☐
Industrial	☐	Ford	☐
Mining-related	☐	**Educational**	☐
Quarry-related	☐	**Commercial**	☐
Mill	☐	Trading post	☐
Black/metalsmith	☐	Store	☐
		Tavern/inn	☐

Military	☐	Post-in-ground	☐
Battlefield	☐	Frame-built	☐
Fortification	☐	Masonry	☐
Encampment	☐	Other structure	☐
Townsite	☐	**Slave related**	☐
Religious	☐	**Non-domestic agri**	☐
Church/mtg house	☐	**Recreational**	☐
Ch support bldg	☐	**Midden/dump**	☐
Burial area	☐	**Artifact scatter**	☐
Cemetery	☐	**Spring or well**	☐
Sepulchre	☐	**Unknown**	☐
Isolated burial	☐	**Other context**	☐
Bldg or foundation	☐		
Possible Structure	☐		

Interpretive Sampling Data:

Prehistoric context samples			
Soil samples taken	N		
Flotation samples taken	N	Other samples taken	

Historic context samples			
Soil samples taken			
Flotation samples taken		Other samples taken	

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Diagnostic Artifact Data:

Projectile Point Types

Clovis		Koens-Crispin	
Hardaway-Dalton		Perkiomen	
Palmer		Susquehana	
Kirk (notch)		Vernon	
Kirk (stem)		Piscataway	
Le Croy	2	Calvert	3
Morrow Mntn		Selby Bay	4
Guilford		Jacks Rf (notch)	
Brewerton	3	Jacks Rf (pent)	
Otter Creek		Madison/Potomac	1
		Levanna	

All quantities exact or estimated minimal counts

Prehistoric Sherd Types

Marcey Creek		Popes Creek		Shepard		Keyser	
Dames Qtr		Coulbourn		Townsend		Yeocomico	
Selden Island		Watson		Minguannan		Monongahela	
Accokeek	6	Mockley		Sullivan Cove		Susquehannock	
Wolfe Neck		Clemson Island		Shenks Ferry			
Vinette		Page		Moyaone			
				Potomac Cr			

Historic Sherd Types

Earthenware		Ironstone		Staffordshire	
Astbury		Jackfield		Tin Glazed	
Borderware		Mn Mottled		Whiteware	3
Buckley		North Devon		**Porcelain**	
Creamware		Pearlware			

Stoneware

English Brown	
Eng Dry-bodie	
Nottingham	
Rhenish	
Wt Salt-glazed	

Other Artifact & Feature Types:

Prehistoric Artifacts

Flaked stone	18354	Other fired clay	
Ground stone	10	Human remain(s)	☐
Stone bowls	11	Modified faunal	
Fire-cracked rock	509	Unmod faunal	
Other lithics (all)	13	Oyster shell	☐
Ceramics (all)	41	Floral material	☐
Rimsherds		Uncommon Obj.	
		Other ☐	

Prehistoric Features

Mound(s)		Storage/trash pit	☐
Midden	☐	Burial(s)	☐
Shell midden	☐	Ossuary	☐
Postholes/molds	☐	Unknown	☑
House pattern(s)	☐	Other	☐
Palisade(s)	☐		
Hearth(s)	☐		
Lithic reduc area	☐		

Lithic Material

Fer quartzite	☐	Sil sandstone	☐		
Jasper	☐	Chalcedony	☐	European flint	☐
Chert	☐	Ironstone	☑	Basalt	☐
Rhyolite	☐	Argilite	☐	Unknown	☐
Quartz	☑	Steatite	☐	Other	☐
Quartzite	☑	Sandstone	☐		

☐ **Dated features present at site**

Historic Artifacts

Tobacco related	4		
Pottery (all)	4	Activity item(s)	1
Glass (all)	9	Human remain(s)	☐
Architectural	9	Faunal material	☐
Furniture		Misc. kitchen	
Arms		Floral material	☐
Clothing		Misc.	6
Personal items		Other ☐	

Historic Features

Const feature	☐	Privy/outhouse	☐	Depression/mound	☐
Foundation	☐	Well/cistern	☐	Burial(s)	☐
Cellar hole/cellar	☐	Trash pit/dump	☐	Railroad bed	☐
Hearth/chimney	☐	Sheet midden	☐	Earthworks	☐
Postholes/molds	☐	Planting feature	☐	Mill raceway	☐
Paling ditch/fence	☐	Road/walkway	☐	Wheel pit	☐
				Unknown	☐
				Other	☐

All quantities exact or estimated minimal counts

Radiocarbon Data:

Sample 1: 970 +/- 120 years BP Reliability Mod

B-84077: Charcoal sample from Ab horizon, Block 3/TU 59, Locus A. Roughly assoc. w/poss. Accokeek ware, LeCroy and Brewerton points, lithic debitage

Sample 2: +/- years BP Reliability

Sample 3: +/- years BP Reliability

Sample 4: +/- years BP Reliability

Sample 5: +/- years BP Reliability

Sample 6: +/- years BP Reliability

Sample 7: +/- years BP Reliability

Sample 8: +/- years BP Reliability

Sample 9: +/- years BP Reliability

☐ **Additional radiocarbon results available**

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External Samples/Data:

Collection curated at JPPM/MAC Lab

☐ Additional raw data may be available online

Summary Description:

The Lyonsfield Run III Site (18BA433) is a large, multi-component resource procurement/quarry and processing site. The site appears to have been a seasonal campsite during the later Late Archaic and Early Woodland periods while earlier and later occupations during the late Early Archaic, Middle Archaic and Late Woodland periods were more transitory. It is a specialized quartz/quartzite quarry and reduction site. The site is located near Owings Mills in Baltimore County, Maryland. It is situated along the floodplain and terraces of two unnamed tributaries of Red Run; it occupies the crest, side-slopes, and the associated terraces of a low, wide finger ridge and encompasses an area of approximately 230 x 320 meters. The site has been subjected to a range of limited disturbances including possible shallow plowing and subsequent sheet erosion on the ridge, 20th century logging that necessitated the use of several dirt tracks, construction of a sewer line immediately south of the site, and recent limited dumping of debris and clearing of vegetation. However, the cumulative impact of the disturbances on such a large resource was not significant and an intact, undisturbed cultural horizon was identified.

Archival investigation revealed that no prehistoric or historic archeological sites had been recorded within and in the immediate vicinity of the site area, though there was considerable activity in the larger area during those times. The nearest sites were recorded over 0.5 km away from Site 18BA433. Prehistoric and historic sites were identified during surveys to the north and east of the site. A total of 19 previously recorded prehistoric sites were located within the Red Run drainage. During the prehistoric period, the site location was a stable, well-drained landform with access to water sources. Additionally, the bedrock geology provided lithic and mineral resources necessary in tool and vessel production.

Phase I and Phase II archeological investigations were undertaken at the site in 1993 ahead of development at the proposed Villages of Lyonsfield Run residential subdivision location. The survey was required as a condition of approval of a wetlands permit from the US Army Corps of Engineers. The objectives of the study were to identify all archeological resources within the designated area of potential effects, to review those results in light of specific historic contexts, to evaluate the potential significance of those resources, applying National Register of Historic Places criteria, and to establish impacts and mitigation needs for any significant sites or components. These objectives were met through a combination of archival investigation, archeological fieldwork, and analysis.

The designated area of potential effect (the project area) encompassed an approximately 17.14 acre portion of the total 185 acre proposed development. The project area was bordered by undeveloped woodlot to the south and the southwest, by residential properties to the north, and by Lathe Road to the east. The project area consisted of 3 contiguous areas: Area A was located within a wooded tract bounded to the north by a small tributary of Red Run; Area B was located about 240 m northwest of Area A in a gently sloping woodlot bounded to the south by a deeply cut tributary of Red Run; Area C was located between those two tributaries (between Areas A and B) on a low ridge that runs from west to east.

Phase I field investigations consisted of systematic shovel test pit (STP) excavations placed within a 20 meter grid across each of the survey areas with close interval shovel testing (5 m) around positive STPs. Soils were removed by natural strata and screened though 0.635 cm (0.25 in) hardware mesh. Phase II investigations entailed close-interval shovel testing (5 m intervals in Area A and 10 m intervals in Areas B and C) and the excavation of 1 m² test units. The soil from test units was first screened through 0.635 cm mesh then all screen residue was retained for water screening. During the analysis of the Phase I assemblage from Areas A, B, and C, quartz and quartzite were combined under the rubric ‘quartz’. This also applied to the Phase II, Area A assemblage; however, during the analysis of the Phase II assemblages from Areas B and C the materials were divided into quartz and quartzite.

Three prehistoric sites (18BA431, 18BA432, and 18BA433) were identified during the Phase I testing; Sites 18BA431 and 18BA432 were small processing sites. Site 18BA433 was identified through the excavation of 163 STPs in a ca. 200 x 300 meter area extending across nearly all of Area C, though there were concentrations of materials on the south and east slopes of the ridge. Four loci were defined on the basis of the Phase I testing: 2 loci bordered the south branch of the tributary and contained evidence suggestive of a campsite and quarry; the third locus was on the southern slope of the ridge and consisted primarily of quarry-related debris; the fourth locus was on the northeastern edge of Area C, south of Area B, and also contained primarily quarry-related debris.

A total of 2,015 prehistoric artifacts were collected during the shovel testing in Area C/Site 18BA433. This included 1,864 quartz flakes and shatter, 137 quartz cores and core fragments, 2 rhyolite flakes, and 4 quartzite flakes. Tools included 4 quartz bifaces, 1 ironstone biface, 2 utilized quartz flakes, and 1 quartz anvil/nutting stone (recorded as groundstone in the table above). No temporally diagnostic materials or features were identified during the Phase I testing. On the basis of shovel testing, the site was interpreted to be a specialized lithic reduction local or quarry.

Phase II testing was conducted over the approximately 200 x 300 meter area in order to define the site’s boundaries, to identify the limits of activity loci, and to assess the site’s structure and function. A total of 224 STPs were dug at 10 meter intervals across Site 18BA433. Fifteen 1 m² test units were excavated in the 4 activity loci, defined as Locus A-Locus D during the Phase II investigations, first identified during the Phase I testing.

Locus A measured approximately 80 x 160 meters in size and encompassed the prehistoric activities on the low terrace between the two stream branches. The evidence from Locus A indicated that it may have been the location of a short-term base camp during the Early and Middle Woodland periods. Lithic reduction, core preparation, the production of bifaces, and the production of rhyolite tools were activities that occurred in this area. The presence of ceramics, points, groundstone tools, and fire-cracked rock suggested that Locus A represented more than a transient extractive camp. Two artifact concentrations were identified in the northeastern and southeastern corners of the locus. Locus A exhibited no signs of plowing thus it was suggested that features may be present, especially within the intact, buried Ab horizon that was identified in the western section of the locus.

Locus B measured approximately 80 x 110 meters in size and was situated on the toeslope of the ridge of the floodplain. It was defined by a dense concentration of quartzite, with smaller amounts of quartz and rhyolite debitage, in the southwest corner of the site. The distribution of lithic raw materials within Locus B suggested that the area represented at least 2 episodes of lithic reduction: one of quartz on the edge of the wetland and a second one of quartzite 10-20 meters to the north. Evidence from this locus indicated that it was the site of the preparation of quartz and quartzite cores, large flakes, and early stage bifaces from large blocks of local raw material. The presence of rhyolite debitage and a point midsection also indicated that maintenance of existing tools took place in the locus. Although no formal reduction strategies were identified in the assemblage from Locus B, it was suggested that further testing and analysis of discrete lithic reduction loci may define several reduction strategies at the site.

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Locus C measured approximately 80 x 160 meters in area and encompassed a zone of prehistoric activity on the southern slope of the ridge. Excavations in this locus revealed the presence of 2 concentrations of quartzite debitage and lesser amounts of rhyolite debitage. This locus did have the greatest amount rhyolite recovered during the Phase II testing. Evidence from this locus indicated that it was one of several locations where quartzite cores were prepared and large flakes were extracted for use either as expedient tools or as blanks. The occurrence of large rhyolite biface thinning flakes and many trim flakes indicated that late stage biface reduction occurred in the northwest portion of this locus. A rhyolite drill was found on the southern margin of the locus and may have indicated that additional activities took place in that portion of the site.

Locus D was located in the northwestern portion of the site, in the northwestern section of Area C. The locus incorporated a diffuse scatter of lithic material on the crest of the ridge that runs through the project area. Excavation of 2 test units in the locus showed a varied stratigraphy: one unit exhibited evidence of deflation/erosion while the other exhibited a more well developed A horizon indicative of a more stable land surface. Quartzite core preparation and the removal of flake blanks appeared to have been the dominant activity within Locus D. The find of a triangular point fragment and the ceramics suggested, however, that there may have been a more substantial occupation on the ridge during the Early and/or Late Woodland periods.

In the text of the report, it was noted that a total of 11,460 prehistoric artifacts were recovered from Site 18BA433 as a result of the Phase II testing. The counts below were taken from tables in the text and the text itself, except for bifaces and points, the totals of which were taken from the artifact inventory. This total comes to 11,323 prehistoric artifacts. The chipped stone material included 11,210 pieces of debitage (10,679 quartzite, 356 quartz, 165 rhyolite, 5 ironstone, and 1 each of chert, sandstone, jasper, shale, and basalt), 110 cores (89 quartzite and 21 quartz), 1 rhyolite drill (possibly dating from the Late Archaic), and 11 utilized and/or modified flakes (2 quartz, 9 quartzite). One large quartzite flake exhibited characteristics indicating its possible use as a chopper. There were 29 bifaces and biface fragments in the Phase II collection as listed in the artifact inventory. Six bifaces were identified as points/knives and included 2 rhyolite Selby Bay points (Middle Woodland), 1 rhyolite Meadowood-type point (Early Woodland), 1 rhyolite Adena-type point(Early Woodland), 1 quartz Lamoka-type point (Middle-Late Archaic), 1 quartz Late Woodland triangular type point such as a Levanna or Madison, and 1 argillite corner-notched late stage biface. There were 4 other unidentifiable point fragments (2 ironstone, 2 quartz). There were also 41 pieces of fire-cracked rocked in the assemblage. The other lithic items recovered from the site were 12 sandstone and quartzite hammerstones and an ironstone hammerstone which was highly smoothed and showed signs of wear consistent with movement within a haft. There were 8 groundstone tools including 1 anvil, 6 abraders and 1 possible chopper. The 3 pieces of steatite found were not definitely worked, but they may have represented the processing or deposition of steatite vessels. Seven sherds of eroded prehistoric ceramics were also recovered from the site. Five of the sherds were identified as possible Accokeek ware and the remaining 2 sherds had temper of steatite with small amounts of sand or quartz (possibly Marcey Creek or Seldon Island ware).

A single historic period redware ceramic sherd was also retained from the site.

The majority of the flaked and groundstone tools were found in Locus A (the easternmost locus), along with the greatest quantity of rhyolite, a few of the ceramic sherds, and all of the steatite fragments. Loci B-D each contained cores and bifaces, as well as occasional ceramics, utilized flakes and fire-cracked rock. The groundstone tools were restricted to Loci A and B. Concentrations of quartzite were found in all 4 loci, concentrations of quartz were found in the southwestern and northeastern portions of Locus A and the southern portion of Locus B. The largest amounts of rhyolite were recovered from Loci A and C with trace amounts in Locus B and a single flake from Locus D.

As a result of the Phase I and II archeological testing, it was determined that the Lyonsfield Run III Site (18BA433) represented a large multi-component quarry-related reduction site and series of short-term base camp occupations that occurred from the Late Archaic period to the Late Woodland period. The large flake size, the large average flake weight, and the large numbers of cores recovered from the site indicated in situ early stage reduction of local quartz/quartzite material. The presence of larger, secondary rhyolite debitage, as well as smaller thinning flakes, indicated that tools of this non-local material were manufactured at the site in addition to maintenance and retouch. The distribution patterns suggested that the site was composed of four discrete activity or occupational areas (Areas A-D), and the variety of artifacts suggested activities other than quarrying and processing were occurring at the site. With some exceptions, the archeological deposits generally appeared to be intact. The large amount of datable prehistoric artifacts, the distribution of artifacts in activity areas, and the observable integrity demonstrated that Site 18BA433 was eligible for listing to the National Register under Criterion D for the potential to provide important information on prehistoric lithic technology and settlement patterns. It was recommended that if the site could not be avoided by the proposed development, then mitigative data recovery was warranted.

The construction related to the proposed residential development was to include a road across the eastern portion of the site and residential structures across the ridge; the proposed project was to impact nearly 100% of the site. Therefore, in 1994 a Phase III data recovery program was initiated. The primary objective of the Phase III investigations was mitigation of anticipated project impacts to cultural resources at Site 18BA433. A series of research questions were posed addressing issues such as procurement and reduction of raw materials, typological and chronological sequences, subsistence systems and settlement patterns.

Prior to excavations, the Phase II datum was re-established at the site and a topographic map was prepared. A control grid was established and the Phase I/II shovel tests and test units were located relative to the grid. Subsurface testing at the site was divided into 2 stages: Stage One testing involved the excavation of STPs and 1 m² test units (dug in 10 cm arbitrary levels within natural stratum); Stage Two testing consisted of the excavation of block units. A total of 80 m² were excavated at the site: a total of 24 STPs dug at 5 m intervals and 25 test units were distributed in a 34.5 m² area, their locations determined by a stratified random sampling strategy; an additional 48.5 m² were distributed within 5 excavation blocks that were placed to sample 3 activity loci in different portions of the site and to investigate the buried (Ab) horizon encountered during the Phase II investigations. Four blocks were located in Locus A where a majority of the prehistoric activity was documented, and the fifth block was situated on the hill slopes in Locus C in the vicinity of an activity area identified during Phase I/II investigations at the site. All excavated soil was wet or dry screened through 0.635 cm mesh. Test units, excavation blocks, and STPs were examined by a geomorphologist and the profiles were recorded.

Geomorphological studies conducted at the site were designed to identify the various landforms, structural units and associated soils present at the site, to discuss landform evolution in terms of sediment supply and transport that have and are operating in the area, and to determine the ages of soil parent material present on the various terraces at the site and the depths to which testing should extend to ensure the recovery of all potentially significant cultural resources. Results of the study indicated that soil profiles across the site vary; Manor and Glenelg soils have been mapped on the slopes and on the ridge, and Glenville soils have been mapped within the floodplain of the drainages.

Phase III excavation and analytical efforts were also directed towards the recovery of archeobotanical remains to permit paleo-environmental and cultural reconstruction. Two-liter volumetric soil samples were taken from all excavated units and floated and all recovered materials were sorted into light and heavy

fractions. Carbonized plant remains were size-sorted using a 2 mm geologic sieve and uncarbonized, modern plant debris was removed after sieving. Material that passed through the sieve was scanned for seeds and other plant parts lacking in the large sized fraction. Results of the analysis of the botanical remains are discussed below.

Several analytical methods were employed regarding the treatment of the lithic assemblage. The Gini index was used to provide both a visual depiction of the size/weight distribution and an empirical measure of the differences between archeological assemblages of debitage. Projectile points and other tools were rinsed but not scrubbed to permit subsequent blood residue/use-wear analysis. The goals of the use-wear study were to develop a context for low-powered use-wear analysis on quartz, quartzite, and rhyolite, and to refine the functional interpretations of the stone tools. A fire-cracked rock (FCR) experiment was conducted in order to evaluate characteristics of the debris produced by quartz, silicified sandstone, and bog iron FCR. The results suggested that FCR is a recognizable artifact group and thermal damage produces block/shatter rather than flakes; differentiation between block/shatter and FCR should rely on evidence of thermal damage including color change and the presence of numerous internal fractures.

Excavations in Locus A were geared at defining the spatial boundaries of the Ab soil horizon. The Ab horizon was encountered in 10 of the 23 STPs dug in the locus. The data suggested the buried soil horizon was confined to a small remnant terrace on the slope of the ridge. Ten test units were also excavated as part of the Stage One investigations. The test unit locations were determined by a site-wide stratified random sampling strategy. Five of the units were placed on the eastern slope of the ridge. One unit (TU 6) was placed on the terrace edge on the north-central side of the locus and two units (TUs 3 and 9) were placed on the lower terrace on the south-central side of the locus; none of these units was placed within a previously identified artifact concentration. TU 1 was placed at the base of the ridge in the center of the locus in an area of low artifact density, while TU 7 was placed on the low terrace within a previously identified cluster of artifacts. During the second stage of investigations, one 3 m^2 block (Block 1), two 3 x 4 m blocks (Blocks 2 and 3), and one irregularly-shaped 6.5 m block (Block 1A) were excavated in Locus A. Blocks 1 and 2 were placed on the lower terraces (the southwestern and northeastern portions of the locus respectively), and Block 1A was placed west of Block 1 in the area of a cluster of artifacts/activity area revealed in TU 8 during the Phase II study. Block 3 was placed on a small terrace in the western portion of the locus in order to examine the buried cultural horizon. The blocks were subdivided into 1 m^2 excavation units (EUs) and each EU was excavated in quadrants.

A total of 4,072 prehistoric artifacts were recovered from excavations in Locus A. A total of 3,024 pieces of debitage were collected (990 rhyolite, 1,938 quartz, 74 quartzite, 11 chert, 9 chalcedony, 1 jasper, and 2 silicified sandstone). There were 517 pieces of micro-debitage; these were not quantified by material type but rhyolite and quartz were the dominant raw materials and lesser amounts of quartzite, chert, and ironstone were present. The distribution of micro-debitage within each excavated block closely matched the density and distribution of the debitage assemblage. There were 57 utilized and/or modified flake tools (24 rhyolite, 33 quartz) in the assemblage representing scrapers, gravers, possible drills, and expedient tools. Twenty cores were recovered from the locus (quartz and quartzite only). The majority of the cores (n=17) were on tabular bedrock, 2 cores were on a water worn cobbles, and the remaining core was an indeterminate material. The low weights and the small amount of cortex on several of the cores indicated they were used extensively prior to being discarded.

In all, 46 bifaces and biface fragments were retained. There was 1 rhyolite Adena-type point, 2 Orient Fishtail points (quartz and rhyolite), 2 possible Holmes/Savannah River points (quartzite and rhyolite), 1 rhyolite Brewerton side-notched point, 1 quartz side notched Halifax point, 1 rhyolite Stanly stemmed point, 2 quartz possible Selby Bay points, 1 quartz Calvert point, 3 possible Patuxent points (2 quartz, 1 rhyolite), 1 quartz Brewerton side-notched point, 2 rhyolite Le Croy points, 1 rhyolite Brewerton eared point, and 1 quartz Madison/Potomac point. There were also 18 unidentifiable point fragments (8 quartz and 10 rhyolite). The remaining bifaces represented early-stage production (1 chalcedony, 1 rhyolite), middle-stage production (2 quartz, 1 chalcedony), and late-stage production (2 rhyolite, 1 chalcedony, 1 quartz); the late-stage chalcedony biface was probably a knife preform and 1 of the rhyolite late-stage bifaces was used as a side scraper. Three of the projectile points collected from Locus A came up positive for blood residue during the analysis. The rhyolite Adena-like point and the quartzite Holmes/Savannah River point were both positive for bear blood residue and one of the rhyolite non-diagnostic point fragments was positive for rabbit blood residue.

A single quartzite hammerstone represented the other lithic category of items and the groundstone materials were represented by an amphibolite anvil. A total of 375 fragments of fire-cracked rock were recovered from Locus A. The analysis used a conservative identification of the FCR because the cultural material was difficult to distinguish from the naturally fractured bedrock quartz. Prehistoric ceramics were represented by 32 sherds. Five of the sherds had quartz-temper with roughened, eroded, or unidentifiable surface treatment while the remaining sherd bodies contained crushed quartz temper and had eroded or unidentifiable surface treatments except for one specimen that had cord-marked decoration. One sherd was positively identified as Accokeek ware. A total of 1,005 botanical remains were collected from the Locus (794 unidentified seeds, 146 pieces of unidentified wood, and 39 pieces of bark). The detailed analysis of botanical remains revealed that the tested samples (described below) consisted primarily of modern unburned seeds and unidentified wood charcoal; no remains that could be attributed to prehistoric activity were identified.

Several fragments of steatite were collected from throughout Locus A. However, steatite was found to occur naturally in the soils in that area of the site. These samples were determined to be natural, not cultural, in origin. Culturally modified pieces of steatite were found in Locus C (discussed below).

A total of 25 historic artifacts were recovered from the A horizon all across Locus A. There was 1 activity-related item, a horseshoe. The only architectural items recovered were 2 brick fragments, 2 cut nails and 5 wire nails. The kitchen-related materials were represented by 5 pieces of machine-made bottle glass and 3 whiteware sherds. Miscellaneous items were represented by a single piece of melted glass, 1 piece of coal, 1 piece of coal slag, and 3 unidentified iron fragments. The only tobacco-related item retained was a kaolin pipe bowl fragment.

Radiocarbon dating was performed on a 1 gram sample of charcoal from TU 59 in Block 3. The sample was collected from the Ab soil horizon from a depth of 62-73 cm below surface. The resultant 2-sigma calibrated date was AD 855-1285 with an intercept date of AD 1035. This date proved to be substantially later that the Early and Middle Archaic periods suggested by the points/knives recovered from the excavation block. However, it was roughly contemporary with the ceramics recovered at the interface of the B1/Ab soil horizons. The radiocarbon date, in conjunction with the recovered diagnostic artifacts suggested that the Ab horizon was buried after the Middle Woodland period.

As first noted during the Phase I/II studies, it was observed that the highest artifact density and the greatest variety of artifacts were located on the lower terraces, just above the stream confluences, in Locus A. Evidence of mixed resource extraction and transitory campsites, organized into a series of discrete activity areas was present. Although no features were identified, concentrations of fire-cracked rock suggested the presence of hearths. The temporal affiliation ranged from the Late Archaic through the Late Woodland periods with the most intensive occupation occurring during the Late Archaic and Early Woodland periods. Two lithic strategies were identified: one directed towards the manufacture of expedient flake tools from local quartz and one directed towards the manufacture of late-stage rhyolite bifaces and finished points. Rhyolite production appeared to have been spatially discrete and temporally

isolated to the Late Archaic/transitional Early Woodland period whereas quartz production was more spatially and temporally widespread.

Overall, the character and spatial distribution of the prehistoric component from Locus A was indicative of multiple reduction and resource procurement episodes. The correlation of the distribution suggested that the rhyolite and quartz reduction episodes were spatially discrete but contemporaneous within Locus A. A possible hearth area was identified in Block 1A that may have been associated with the late-stage lithic processing area observed during the Block 1 excavations. It appeared that broken, incomplete, and exhausted tools were discarded in situ while new specimens were manufactured. The lithic tool types recovered exhibited a range of edge-damage which suggested that a variety of floral and faunal materials were processed. In the Block 2 and Block 3 assemblages the dominant raw material type was quartz. This differed from the Block 1 and Block 1A assemblages where rhyolite was the dominant raw material. Also, no early-, middle-, or late-stage bifaces were recovered from Block 2.

Two cultural horizons were identified in Block 3; a buried prehistoric horizon (IIA/Ab) overlain by a more recent prehistoric/modern horizon (A). During excavations in Locus A, the approximate boundaries of the buried Ab horizon were located in the western section of the locus, on a terrace remnant, along the southern edge of the slope. Excavations in the vicinity of the intact Ab horizon produced more rhyolite debitage than the tests in the rest of the Locus. This suggested there was a distinct rhyolite reduction area on the remnant terrace and that an unknown portion of the reduction area appeared to be intact within the Ab horizon. Activities related to rhyolite appeared to have predominately been late-stage biface reduction and tool maintenance; rhyolite may have been coming onto the site as prepared blanks. The buried horizon most likely represented a sealed, intact stratum. Based on the diagnostic artifacts and the radiocarbon date, the cultural association of the Ab horizon extended from the late Early Archaic period through the Middle Woodland period. The technological characterization of the sub-assemblage from the Ab horizon indicated that late-stage reduction and limited resource processing occurred in the area.

Data from the use-wear study suggested that the majority of the resources processed in Locus A were of medium resistance materials such as hide or wood. Several of the bifaces and projectile point fragments exhibited use-wear damage consistent with use on bone and wood. Tasks represented by the utilized tools included scraping, cutting and sawing, graving/drilling, and shaving.

Phase III excavations in Locus B consisted of the excavation of five 1 m² test units that were distributed across the locus based on the site wide stratified random strategy. TUs 11-12 and 14 were placed on the lower terrace along the southern edge of the locus. TU 13 was placed on the slope in the northwest corner of the locus and TU 15 was placed in the northeast corner of the locus within the area of highest artifact density.

A total of 316 prehistoric artifacts were recovered from STPs and test unit excavations and from water-screened soil samples in Locus B. A total of 156 pieces of debitage were collected (4 rhyolite, 146 quartz, 5 quartzite, and 1 jasper). There were also 151 pieces of micro-debitage (150 quartz, 1 quartzite). Five cores were recovered from the locus (2 quartz and 1 quartzite). The cores were all made from weathered, tabular bedrock. No lithic tools were recovered. Two small fragments of fire-cracked rock (FCR) were recovered from Locus B. The analysis used a conservative identification of FCR because the cultural material was difficult to distinguish from the naturally fractured bedrock quartz. Prehistoric ceramics were represented by 2 sherds, both of which had grog and crushed quartz temper suggesting an Early Woodland period date. A total of 110 botanical remains were collected from the Locus (72 unidentified seeds, 1 piece of unburnt wood, 4 pieces of unidentified bark, and 31 pieces of unidentified wood). The detailed analysis of botanical remains revealed that the tested samples (described below) consisted primarily of modern unburned seeds and unidentified wood charcoal; no remains that could be attributed to prehistoric activity were identified.

Phase III data recovered from Locus B indicated low artifact densities and little variation on the type of artifacts recovered. The only diagnostic artifacts recovered from this locus were two ceramic sherds that most likely dated to the Early Woodland period. The data suggested that the quarrying and initial reduction of local quartz outcrops and non-local material such as rhyolite and jasper was not a major activity in this part of the site area. Prehistoric activity in the area likely focused on resource procurement and processing, and expedient tool production and maintenance. The limited presence of rhyolite in Locus B possibly indicated a temporal distinction between this locus and the occupations in Locus A. The fact that all materials were confined to the A horizon and the absence of post-depositional disturbance were strong indicators that the artifacts were in situ. Occupation within the locus was scattered across the gradual south-facing slopes of the ridge and a low terrace above the former wetland. Locus B lacked the quartz outcropping and level terrain which appeared to have been important criteria in the location of activity areas at the site. The lack of clearly defined artifact concentrations suggested that no subsurface features were present.

Phase III excavations in Locus C consisted of the excavation of five 1 m² test units. The TUs were distributed across the locus based on the site wide stratified random sampling strategy. Random sampling resulted in a concentration of the test units on the slope along the southern edge of the locus. TU 17 was placed on the crest of the ridge, TUs 18 and 19 were placed within the highest density cluster of prehistoric debitage of the locus, and TUs 16 and 20 were placed on the western edge of the locus, slightly downslope from the crest of the ridge. During the second stage of investigations, one 3 m² block (Block 4) was excavated in Locus C. The block was placed to examine a concentration of quartz debitage identified during Phase II and re-identified during Phase III, Stage One.

A total of 157 prehistoric artifacts were recovered from excavations in Locus C. A total of 45 pieces of debitage were collected (1 rhyolite, 43 quartz, 1 quartzite). There were 101 pieces of micro-debitage in the assemblage (88 quartz, 11 quartzite, 2 rhyolite). One tabular quartz core was recovered from the locus. There were 8 utilized and/or modified flake tools (all quartz) in the assemblage representing scrapers and expedient tools. In all, 2 bifaces were retained: 1 middle stage rhyolite biface and 1whole rhyolite Calvert point. A total of 273 botanical remains were collected from the Locus (232 unidentified seeds and 41 pieces of unidentified wood). The detailed analysis of botanical remains revealed that the tested samples consisted primarily of modern unburned seeds and unidentified wood charcoal; no remains that could be attributed to prehistoric activity were identified.

The excavation of Block 4 resulted in the recovery of an additional 793 prehistoric artifacts. The block was placed to further examine the concentration of quartz and rhyolite debitage identified in the southeastern corner of Locus C. The assemblage included 637 pieces of debitage (635 quartz, 1 rhyolite, 1 quartzite) and 46 pieces of quartz micro-debitage. Two quartz cores were recovered; one was made on tabular material and one was made on a cobble. Both cores were recovered from within the 2 major debitage concentrations in the block. Three retouched and utilized flakes and five utilized flakes were found during the block excavation. Use-wear analysis done on 4 of the flakes showed that they were used for cutting and sawing tasks, as a graver, and as a hafted scraper. The only recovered point was identified as a rhyolite Calvert point. There was evidence of hafting on the proximal portion of the tool. A total of 8 steatite fragments were recovered from the A horizon including 1 vessel rim and 7 fragments of vessel walls. These steatite fragments were differentiated from the naturally occurring steatite by their greater size, shape, and the stratigraphic association. A total of 91 pieces of fire-cracked rock were retrieved, all quartz. Sixteen fragments of botanical material were recovered from soil samples from Block 4. There were 9 unidentified seeds and 7 pieces of unidentified

wood. All of the samples were determined to be modern in origin.

Excavations in Locus C revealed a low artifact density and little type or class variety. The low artifact densities may have been the result of the placement of the units. The only diagnostic artifact recovered was an Early Woodland projectile point. Limited evidence for primary lithic reduction was present and the focus of lithic activity appeared to be limited to late-stage reduction of local quartz material. The concentration of rhyolite debitage encountered during the Phase I/II testing was revealed to be small and isolated upon further testing. Quartz debitage dominated the assemblage from this locus. There was no evidence of historic period cultivation at this locus and the artifact assemblage was confined primarily to the A horizon soils. The topography sloped over much of the locus except for the remnant terrace. The potential for intact features was considered high on the small, flat terrace remnant because of the high density of artifacts recovered from that portion of the locus during the Phase II and III investigations. However, no features were encountered as a result of archeological investigations in this area.

Phase III excavations in Locus D consisted of the excavation of five 1 m² test units. The TUs were distributed across the locus based on the site wide stratified random sampling strategy. Random sampling resulted in the placement of all of the test units on the crest of the ridge near the center of the locus, where the highest concentration of artifacts was located.

A total of 262 prehistoric artifacts were recovered from STPs and test unit excavations and from water-screened soil samples in Locus D. A total of 121 pieces of debitage were collected including 7 pieces of rhyolite and 114 pieces of quartz. There were 138 pieces of micro-debitage; quartz was the only raw material represented. The largest core recovered from the entirety of the site during the Phase III testing was from Locus D. This was a large tabular quartz core. There was 1 modified and utilized quartz flake tool in the assemblage. A single quartz point/knife base was recovered. It had a straight base suggestive of Late Woodland point types. In addition, a total of 209 botanical remains were collected from the locus (202 unidentified seeds and 7 pieces of unidentified wood). The detailed analysis of botanical remains revealed that the tested samples consisted primarily of modern unburned seeds and unidentified wood charcoal; no remains that could be attributed to prehistoric activity were identified.

In addition to the prehistoric material, 3 historic artifacts, all kaolin pipe stem fragments, were recovered from Locus D. The fragments were found in the Ap soils at the crest of the ridge in the central portion of the locus. Soils in that portion of the site had undergone historic plowing. Therefore, the pipe pieces probably represented a lost or discarded item that was subsequently redeposited as a field scatter during cultivation of the area.

Excavations in Locus D indicated that short-term lithic reduction activity and possibly procurement and processing activities occurred in this area of the site probably during the Late Woodland period. The archeological deposits in the locus lacked vertical integrity and an Ap horizon was identified over the entire area. The majority of the assemblage was confined to the Ap horizon and the remaining artifacts were recovered from the Ap/C interface. Also, it was apparent that the area had been subjected to moderate to severe deflation.

The paleobotanical analysis conducted during the first stage of Phase III research was designed to assess the potential for intact archeobotanical remains at the site and to establish recommendations for further research during the second stage of data recovery. Botanical samples were systematically collected through routine soil sampling of cultural bearing strata from all units excavated. Samples were approximately 2 liters in volume. Samples were selected for processing and analysis on the basis of the potential for containing relevant cultural data. A column of soil samples from the northeast corner of all levels in TUs 3, 7, and 15 were selected for processing. Artifacts were removed from the selected soil samples by water flotation. Natural geologic and modern materials were discarded and cultural materials were retained for analysis.

A total of 19 soil samples were subject to flotation and cursory analysis. Archeobotanical materials were present in over 70% of the cultural levels in the 3 test units. Only in TU3 did the frequencies of carbonized remains and artifacts co-occur; however, the remains were recovered from a buried A horizon of unknown age, and could date from the historic period. The greatest amounts of carbonized material from TUs 7 and 15 were found below the peak frequency of lithic artifacts and could not be confidently attributed to the prehistoric occupation at the site. The limited quantities of carbonized botanical remains recovered from the test units examined and the inability to confidently attribute these remains to the prehistoric occupation of the site argued against additional archeobotanical analysis.

Although the data suggested that there were several activity areas present across the site, only one could be clearly distinguished. The character and spatial distribution of artifacts within Block 1A was indicative of a single, or limited, resource procurement and reduction episode, including a possible campsite. In all likelihood, other such activity areas were present on the site but remained obscured by previous or subsequent occupations. Activity was focused in the central portion of the block, in the area with the highest concentration of debitage, flake tools, and fire-cracked rock. The recovery of a high density of fire-cracked rock indicated this was the possible location of a hearth. The high frequency of finished bifaces (7) indicated the maintenance of points and other bifacial tools. The blood protein residues on 2 of the points recovered from near the southern margin of the block indicated that rabbit and bear were among the animals killed or processed by these tools. A tight concentration of rhyolite debitage was observed in the center of the block.

Other possibly activity areas at the site were inferred from an assessment of artifact distributions. Several possible activity areas were identified in Locus A. A pattern of activity similar to that noted for Block 1A, but much less intensive, was observed in Block 1 where the overall character of the assemblage was indicative of a variety of activities. These activities included primary reduction of quartz (core preparation and early-stage biface reduction), late-stage reduction and/or maintenance of rhyolite tools, and hide or wood working. The modest amount of data recovered from Block 2 was indicative of habitation-related and resource procurement activities. The varied assemblage and the variety of diagnostic artifacts indicated occupation on this portion of the site occurred possibly during the Early Archaic period, and during the Late Archaic, Early and Late Woodland periods. Activity in the area consisted of primary and secondary reduction of quartz (core preparation and early-stage biface reduction) and late-stage reduction and/or maintenance of rhyolite tools. These activities could not be attributed to a single occupation (within each period represented); one or more occupations produced most of the remains within Block 2.

Although the clustering of artifacts within the Ab horizon in Block 3 suggested that they represent a single occupation, typological classification of the recovered diagnostics indicated occupations during the late Early Archaic and Late Archaic periods. Activity was less intense in this portion of the site. Primary quartz reduction was a minor activity here and rhyolite appeared to have been used for working hard materials such as bone or wood. The assemblage from Block 4 in Locus C suggested that portion of the site was occupied only during the Early Woodland period. Use-wear analysis of flake tools from the block indicated a variety of activities such as cutting or sawing, graving, and scraping occurred there. The dispersed set of artifacts recovered from the top of the ridge within Locus D indicated that the area was probably only used briefly for resource procurement during the Late Woodland period.

Phase II and Phase III Archeological Database and Inventory

MARYLAND HISTORICAL TRUST

Site Number: 18BA433 **Site Name:** Lyonsfield Run III

Other name(s)

Prehistoric ☑ Historic ☐ Unknown ☐

Brief Description: Early to Middle Woodland short-term resource procurement

A large part of the prehistoric occupation at Site 18BA433 was concentrated on a low terrace adjacent to a stream/wetland area, an area defined archeologically as Locus A. Prehistoric occupation of an adjacent ridge (Locus D) and the slopes (Locus C) and the toeslope (Locus B) was more transitory and special purpose. Early to Middle Archaic occupation at the site was limited primarily to the western portion of Locus A. The Early Archaic was defined by 2 points recovered from within the Ab horizon in Block 3. The western portion of the floodplain at the site (Locus A) probably served as an upland hunting camp. The Middle Archaic was defined by 2 points recovered from Block 2. Evidence for early Late Archaic occupation at the site was confined to 4 points recovered from the southern portion of Locus A. Later Late Archaic occupation was identified on the basis of 12 points and steatite vessel fragments. The identification of 9 points within a small area of the eastern portion of Locus A, near the confluence of the small streams that border the site, was evidence for a transitional terminal Archaic/Early Woodland period occupation. A major activity during the Late Archaic and Early Woodland periods was the reduction of both local quartz/quartzite and non-local rhyolite. Later Early Woodland and Middle Woodland point and ceramic types where recovered primarily from Locus A, Block 2 but generally were more widespread than the early material. A Late Woodland period occupation at the site was defined on the basis of 3 triangular points, 2 of which were recovered from Locus D and 1 from Locus A. Use of the site during the Late Woodland period appeared to have been brief and largely restricted to the crest of the ridge.

The prehistoric occupations at the Lyonsfield Run III Site (18BA433) were not easily disarticulated into constituent component sub-assemblages due to the shallow cultural deposits and the unanticipated number of occupations at the site. Although it was possible to distinguish many of the activities associated with these occupations, their association was not incontrovertible. At the site, the primary focus was on the production of large flakes from exposed bedrock quartz; there was minimal use of cobble resources that could be obtained in the nearby stream bottom. Analysis of the quartz reduction indicated that core preparation, early-stage biface reduction, and flake production dominated the quartz-related reduction activities. Conversely, rhyolite reduction at the site was dominated by tool maintenance and late stage biface production. It is likely that rhyolite was brought to the site in the form of semi-finished bifaces and projectile points/knives. Current settlement models suggested that sites in the upper Red Run drainage could be characterized as small procurement sites containing tools used for cutting, scraping, wood working, and digging. The investigations at Site 18BA433 suggested that microenvironmental variation may significantly distort this general pattern and therefore, existing settlement models must be revised to accommodate more intensive settlement (base camps) in the upper portions of the small drainages of Red Run. Subsequent to the archeological investigations, the Villages of Lyonsfield Run residential subdivision has been constructed. No further work is necessary at the site.

External Reference Codes (Library ID Numbers):

00005516, 00005537